

*Stated Meeting, October 7, 1881.*

Present, 12 members.

President, FREDERICK FRALEY, in the Chair.

Letters of acknowledgment were received from the Society at Stuttgart (105, 106, List); the R. Danish Society (107, 108, XViii); the Dutch Society at Harlem (105, 106, List); the R. Academy at Amsterdam (106); the Zoological Society at Amsterdam (107, 108, XViii); the Agricultural Society at Lyons (102-106); the R. S. of Edinburg (106); the Geol. Survey of Canada (108); and the University of the City of New York (108.)

Letters of envoy were received from the Hungarian Academy; the Royal Academy and Zoological Society at Amsterdam; the Central Statistical Bureau, Dutch Society and Teyler Foundation at Harlem; and the Natural History Society at Hanover.

A letter requesting a copy of Proceedings No. 92, was received from the Meteorological Institute at Vienna.

A letter respecting the "American Catalogue" was received from Armstrong & Co., N. Y.

Donations for the Library were received from the Asiatic Society of Japan; the Russian, Prussian, Hungarian and Dutch Academies, and the Academies at Rome, Turin and Dijon; the Natural History Societies at Moscow, Hanover and Stuttgart; the Observatory at St. Petersburg; the Geographical, Anthropological and Zoological Societies and Geological Institute, in Vienna; the German Geological Society in Berlin; the Statistical Bureau at Harlem; the Zoological Society at Amsterdam; the Entomological Society and Statistical Bureau at Brussels; the Geological Committee of Italy; the Guimet Museum and Agricultural Society at Lyons; the Geographical Society and Society of Sciences at Bordeaux; the Anthropological, Ethnographical, Antiquarian Societies, Polytechnic School, and Political and Literary Review, at Paris; the Society at Cherbourg; the Victoria Institute, Meteorological, Geograph-

ical, Geological, Zoological and Asiatic Societies, Nature and the Cobden Club, at London; the Societies at Cambridge, Falmouth, Leeds, Liverpool, and Edinburg; the Mass. Hist. Society; Peabody Museum; the American Antiquarian Society; the American Journal of Science; the American Journal of Pharmacy; the U. S. Department of Agriculture; the National Museum at Mexico; Mr. Eli K. Price, and Mr. F. Fraley.

The death of Captain Carlile P. Patterson, Superintendent of the Coast and Geodetic Surveys of the United States, was announced by Mr. Fraley.

*Resolved*, That Mr. Robert Patterson be requested to prepare an obituary notice of the late Mr. William E. Dubois.

Communications were received entitled:—

“Notes on the Coal Field Near Cañon City;” and “Notes on the Quinnimont Coal Group in Mercer Co. W. Va. and Tazewell Co. Va. by John J. Stevenson, Professor of Geology in the University of the City of New York.”

Professor Cope exhibited a recently discovered lower jaw of *Trisodon quiverensis* from New Mexico, in an almost perfect condition, with four molars and two premolars of marsupial type. Beneath the premolars are exhibited (by fracture) two perfectly formed successional teeth of carnivorous type. He explained the systematic importance of the fact.

Mr. Lesley, remarked that he thought it had importance also in the transcendental discussion of the development theory; since it represented the form-force of this individual creature as performing its functions of bodily creation under the inspiration of two form-ideas or type-principles at the same time and not in the succession of time. And if this be true of an individual form-force, it supposes the same to be true of the form-force of the world at large.

If in a single jaw we see the process of realizing two distinct organic types at the same moment—the alleged older type not producing the alleged later type by natural generation; nor even preparing for its appearance on the scene—and if we see the two types not separated by any interval of time, and not transcendently transmuted one into the other through intermediate gradations of type form—then, there is no necessity for seeking any other cause for such intervals or gradations, when apparent in the geological record, except the intelligence of the universal form-force in nature, whatever that may be.

In other words, no theory of natural selection can be used to account

for the presence of a wolf's tooth beneath an opossum's tooth in the same jaw. The creative energy in this case is neither governed by memory, nor by present necessity; but is intelligently prophetic of future emergencies. And that is precisely our simplest definition of *divine providence*. But it is also our simplest definition of *practical invention*. Combining the two, we get the view taken by Mr. Agassiz, instead of the view taken by Mr. Darwin.

Professor Cope exhibited also a very interesting tooth, which he named *Ptilodus mediævus*, from the Lower Eocene of New Mexico.

The importance of this discovery lies in the fact that it furnishes an intermediate link between the *Plagiaulax* of the Jura and the recent Australian *Hypsiptymnus*; which two instances of the general type have hitherto remained separated from each other by the whole Cretaceous and Tertiary interval.

Pending nominations, Nos. 934 to 945 were read.

The expediency of printing certain communications was referred for consideration to the Finance Committee.

On motion of Mr. Fraley, it was

*Resolved*, That the Society most earnestly recommends the appointment of Mr. J. E. Hilgard, as Superintendent of the Coast and Geodetic Surveys of the United States, believing him to be most eminently fitted for the discharge of the duties of the office, by his long and faithful services in conducting said surveys, and by his skill, ability, and full knowledge of all that is required to make said surveys honorable to the Government and useful to the people.

And the meeting was adjourned.

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*Notes on the Quinnimont Coal Group in Mercer Co. of West Virginia and Tazewell Co. of Virginia. By John J. Stevenson, Professor of Geology in the University of the City of New York.*

(Read before the American Philosophical Society, Oct. 7, 1881.)

Bluestone creek, formed at the easterly edge of Tazewell county, Virginia, by the union of Laurel and Mud forks, flows across Mercer and Summers counties of West Virginia to the New river, which it reaches at about four miles south from Hinton, a station on the Chesapeake and Ohio railroad. It receives tributaries from the north, known as Little Bluestone, Mountain, Camp, Wolf, Wide Mouth, Flippon and Simmons creeks. The first four of these rise in an elevated ridge, known as Flat Top, which